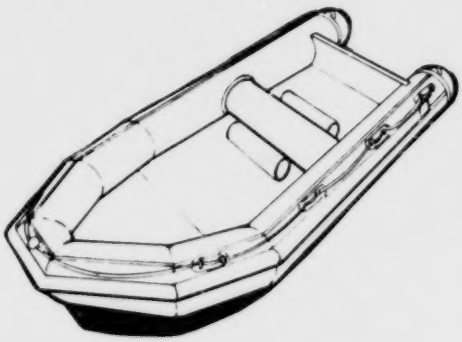
5-1940-273-10 * TM 5-1940-273-10

TECHNICAL MANUAL
OPERATOR'S MANUAL



15-PERSON INFLATABLE ASSAULT BOAT

(NSN 1940-00-540-5609)

Approved for public release. Distribution is unlimited.

HEADQUARTERS, DEPARTMENT OF THE ARMY

*This manual supersedes TM 5-1940-273-10, dated 1 June 1987.

D/01.//: 8 APRIL 1988

READEX FICHE best copy available

WARNING

Dry cleaning solvent, P-D-680, used to clean parts, may cause danger to persons and propeıty. Do not allow the solvent to touch the skin over long periods of time. Do not use near open flame or heat. Flash point of solvent is 100°F - 138°F (38°C-59°C).

*TM 5-1940-273-10

TECHNICAL MANUAL

No. 5-1940-273-10

HEADQUARTERS
DEPARTMENT
OF THE ARMY
WASHINGTON, DC
8 April 1988

Operator's Manual
BOAT, INFLATABLE ASSAULT
15 PERSON CAPACITY
(NSN 1940-00-540-5609)

REPORTING OF ERRORS

You can help improve this manual. If you find any mistakes or if you know a way to improve the procedures please let us know. Mail your letter of DA Form 2028 directly to: Commander, U.S. Army Troop Support Command, Attn: AMSTR-MCTS, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. A reply will be furnished to you..

TABLE OF CONTENTS

		Page
CHAPTER 1	INTRODUCTION	1-1
Section I	General Information	1-1
II	Equipment Description	1-5

Approved for public release. Distribution is unlimited.

*This manual supersedes TM 5-1940-273-10, dated 1 June 1987.

		Page
CHAPTER 2	OPERATING INSTRUCTIONS	2-1
Section I	Location and Description of Assault Boat Components	2-1
Section II	Preventive Maintenance Checks and Services	2-4
Section III	Operation Under Usual Conditions	
	Unfolding Boat	2-34
	Inflation	2-37
	Launching of Boat	2-42
	Deflation of Boat	2-44
	Storage of Boat	2-46
Section IV	Operations Under Unusual Conditions	2-48
CHAPTER 3	MAINTENANCE INSTRUCTIONS	3-1
Section I	Lubrication Instructions	
	Hand Pump	3-1
	Foot Pump	3-6

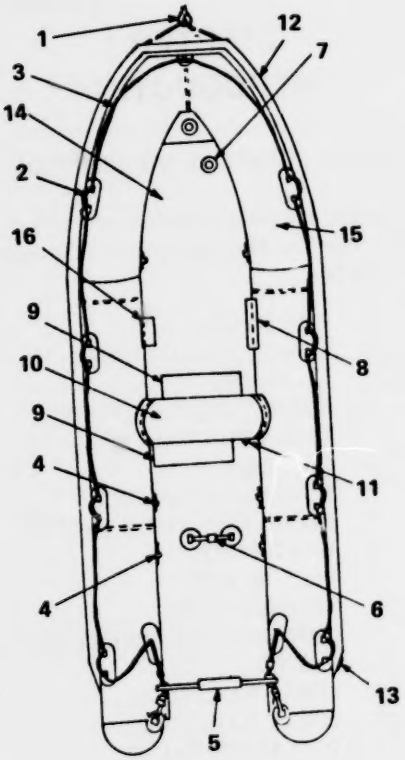
		Page
Section II	Troubleshooting Procedures	
	Boat	3-9
	Pumps	3-10
Section III	Emergency Repairs to Boats	
	Repairs to Boat	3-11
	Hand Pump Repair	3-16
	Foot Pump Repair	3-27
APPENDIX A.	REFERENCES	A-1
APPENDIX B.	COMPONENTS OF END ITEM and BASIC ISSUE ITEMS	B-1
APPENDIX C.	ADDITIONAL AUTHORIZATION LIST (AAL) ITEMS (Not Applicable)	
APPENDIX D.	EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST	D-1
	SUBJECT INDEX INDEX-1	

CHAPTER 1
INTRODUCTION

Section I GENERAL INFORMATION

The 15-person Inflatable Assault Boat is used by assault troops. The following is a list of the major parts of the boat.

1. TOW BRIDLE
2. CARRYING HANDLES
3. LIFELINE
4. MAIN FLOTATION TUBE INFLATION VALVES
5. TRANSOM
6. FUEL TANK HOLDER
7. FLOOR INFLATION VALVES
8. HAND PUMP
9. FOOT PUMPS
10. THWART TUBE
11. THWART TUBE INFLATION VALVE
12. SPRAY RAIL TUBE
13. SPRAY RAIL TUBE INFLATION VALVE
14. INFLATABLE FLOOR
15. MAIN FLOTATION TUBE
16. REPAIR KIT



15-person inflatable assault boat configuration.

Scope

Type of Manual: Operation and Maintenance

Model Number and Equipment Name

Fifteen-person inflatable assault boat.

Purpose of Equipment

Carries men and equipment across a water obstacle primarily during the assault phase of a river crossing.

Maintenance Forms and Records

Department of the Army forms and procedures will be those prescribed by DA PAM 738-750, The Army Maintenance Management System (TAMMS). Maintenance forms and records you are required to use are as follows:

DA Form 2404 (Equipment inspection and maintenance worksheet)

DA Form 2407 (Maintenance request used for requesting support maintenance)

DA Form 2407-1 (Continuation sheet used for requesting support maintenance)

Hand receipt (-HR) manuals.

This manual has a companion document with a TM number followed by "-HR" (which stands for Hand Receipt). The TM 5-1940-273-10-HR consists of preprinted hand receipts (DA Form 2062) that list end item related equipment (i.e., COEI, BII, and

AAL) you must account for. As an aid to property accountability, additional -HR manuals may be requisitioned from the following source in accordance with procedures in Chapter 3, AR 310-2.

U.S. Army Adjutant General Publications Center
ATTN: AGLD-OD
2800 Eastern Blvd.
Baltimore, MD 21220

Reporting Equipment Improvement Recommendations (EIR).

If your 15-person inflatable assault boat needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. Put it on a SF 368 (Quality Deficiency Report). Mail it to us at: Commander, US Army Troop Support Command, ATTN: AMSTR-QX, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. We'll send you a reply.

Section II EQUIPMENT DESCRIPTION

PURPOSE OF 15-PERSON INFLATABLE ASSAULT BOAT

An inflatable boat able to carry 15 people - an engineer crew of 3 when paddled or 2 when powered by an outboard motor plus 12 infantry soldiers - with personal equipment across water obstacles.

CAPABILITIES AND FEATURES

Missions of Assault Boat:

a. Landing of infantry troops
b. Inspecting river bottoms and banks for stability of bridge and ferry sites.

Components:

a. Boat
    1. Neoprene-coated nylon fabric with 10 separate air compartments.
    2. Transom for mounting 25HP outboard motor
    3. Towing bridle
    4. Life line
b. Pumps
    1. Hand-held, hand operated (1)
    2. Foot-held, hand operated (2)
c. Wooden paddles (11)
d. Carrying case
e. Repair kit

WEIGHTS AND DIMENSIONS

Weight	250 lbs (113 kg)
Length (approx)	17 ft. (5.2 m)
Width	5 ft. 8 in. (1.7 m)
Depth at bow	34 in. (86.36 cm)
Capacity	3,375 lbs. (1531 kg)
	(15 people with equipment)

PERFORMANCE

Paddle	Fully loaded boat can maintain forward motion in 5 ft. (1.5 m) per second current.
Outboard Motor (25 HP)	Fully loaded boat can maintain forward motion in 11 ft. (3.3 m) per second current.

TRANSPORTATION 20 boats can be loaded on one 2½ Ton cargo truck.

INFLATION TIME 10 to 20 minutes.

CHAPTER 2
OPERATING INSTRUCTIONS

Section I LOCATION AND DESCRIPTION OF ASSAULT BOAT COMPONENTS

MAIN FLOTATION TUBE (1) and MAIN FLOTATION TUBE INFLATION/DEFLATION VALVES (2). The main body of the boat consists of 6 air-tight compartments. Each compartment is inflated or deflated through its own flotation tube inflation/deflation valve.

INFLATABLE FLOOR (3) and FLOOR INFLATION/DEFLATION VALVES (4). The floor of the boat is inflated/deflated through its own floor inflation/deflation valve.

THWART TUBE (5) and THWART TUBE INFLATION/DEFLATION VALVE (6). The thwart tube gives side-to-side support for the boat and serves as a seat. The tube is inflated/deflated by its own inflation valve.

SPRAY RAIL TUBE (7) and SPRAY RAIL TUBE INFLATION/DEFLATION VALVE (8). The spray rail attaches to the upper, outside part of the flotation tube (1) and is inflated/deflated by its own inflation/deflation valve.

TOW BRIDLE (9). Attaches to the bow (front), of the boat and serves as a towline, an anchor line, or a line for tying up the boat.

LIFELINE (10). Located around top edge of boat for emergency use.

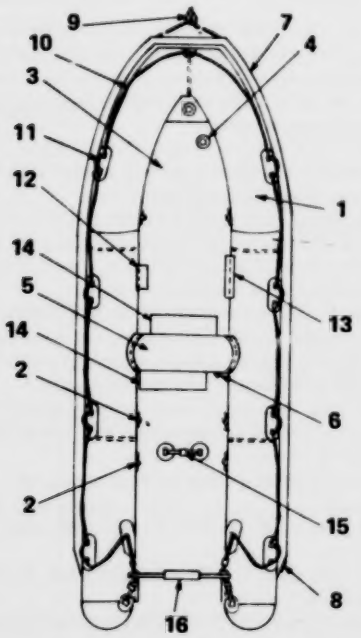
CARRYING HANDLES (11). Four on each side, used to carry boat.

REPAIR KIT (12). Used to make emergency and normal repairs to the boat.

HAND PUMP (13) and FOOT PUMPS (14). Used to inflate and deflate the boat.

FUEL TANK HOLDER (15). Used to secure the outboard motor fuel tank.

TRANSOM (16). Consists of a transom board sheath and a transom board. The transom board sheath attaches to the flotation tubes (1) and floor (3) and forms a seal to keep water out of the boat. The transom board inserts into the transom board sheath and serves as a motor mount.



15-person inflatable assault boat configuration.

Section II PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

GENERAL

To make sure the boat is ready for use, it must have a complete inspection and any problems must be corrected. Failure to do so could result in serious damage.

BEFORE YOU OPERATE - Examine all the **WARNINGS** and **CAUTIONS.**

WHILE YOU OPERATE. - Observe the **WARNINGS** or **CAUTIONS** as you do each of the operating steps.

AFTER YOU OPERATE - Make sure the steps were completed and the boat is properly secured.

If at any time your boat fails to operate correctly, report it on the proper form as listed in the DA PAM 738-750.

SEMIANNUAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

TABLE 2-1 lists and describes the steps to follow during a Six Month check. All problems shall be recorded and reported on a DA Form 2404 (Equipment Inspection and Maintenance Worksheet) as soon as possible after the inspection.

ITEM NUMBER Column. Numbers the item to be checked/serviced and used to report results in the TM Number column of the DA Form 2404.

ITEM TO BE INSPECTED Column. Indicates the portion of the equipment to be inspected.

PROCEDURES CHECK FOR AND HAVE REPAIRED, REPLACED OR ADJUSTED AS NECESSARY Column. Contains steps to be followed during a check.

EQUIPMENT WILL BE REPORTED NOT READY (RED) IF Column. Contains information that will cause the equipment not to be ready to safely complete its task.

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)

NOTE: These checks are to be done every six months.

Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
1	Boat	Inspect the boat for any damage which may cause leakage as follows: UNFOLDING Unfold boat using following steps: Release straps and unfold flaps. Remove boat from carrying case.	Cuts, tears or holes are present.

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
1	Boat (cont.)	CAUTION Make sure no sharp items are under the boat that could cut or damage it. Remove paddles from carrying case.	

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

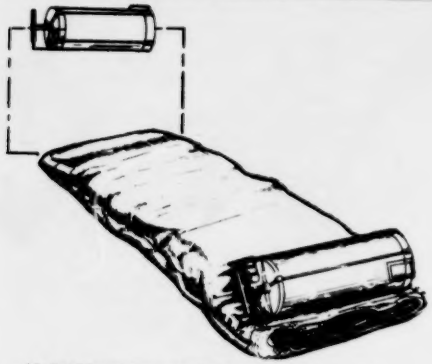
Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
1	Boat (cont).	 Unfold boat from half folded position and remove pumps from pump pockets	

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

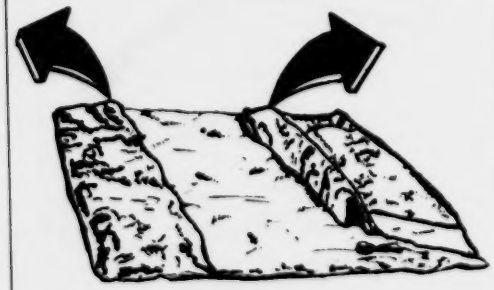
Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
		 Unfold bow (front) from center. Unfold stern (back) from center.	

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
1	Boat (Cont.)	Unfold the sides	

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

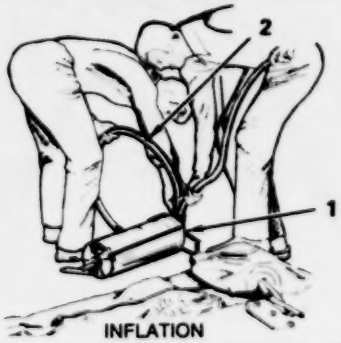
Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
1	Boat (cont).	 INFLATION Remove the pump and hose from their pocket. Attach the hose(s) (2) to the end of the pump (1) opposite the handle.	

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

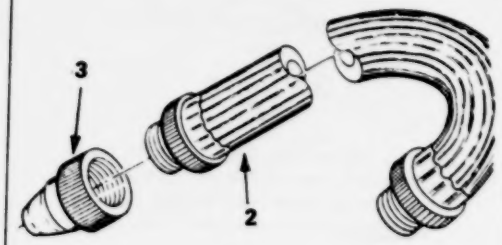
Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
1	Boat (cont.)	 Attach the adapter (3) to the end of the hose (2).	

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

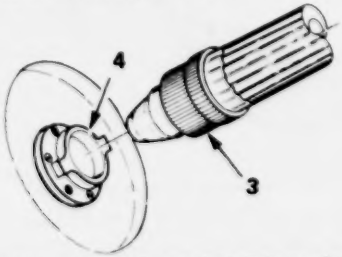
Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
1	Boat (cont.)	NOTE The foot held pumps are used for inflating the main flotation tube, spray rail tube, thwart tube and floor. The hand pump is used for floor compartment inflation.  Insert hose adapter (3) into the inflation valve (4).	

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

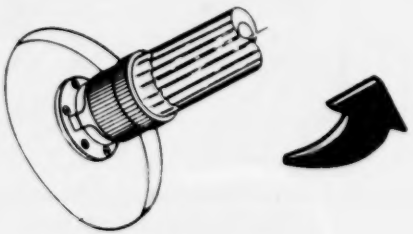
Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
1	Boat (cont.)	Open inflation valve by turning to the left.  CAUTION Do not overinflate. Use pressure gage during inflation.	

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

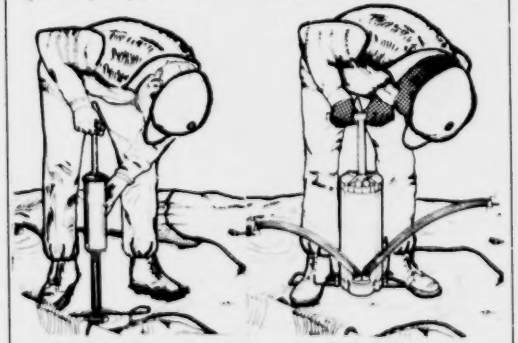
Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
1	Boat (cont.)	Operate pumps until the correct pressures are indicated.  Hand Pump Foot Pump NOTE Pressure for the floor compartment is 7 psi (492 g/sqcm). The main tube, spray rail, and thwart tube should be 3 psi (211 g/sqcm).	

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

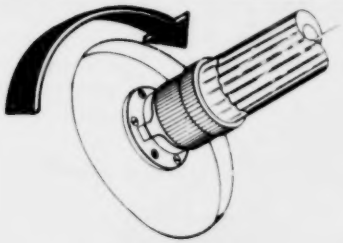
Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
1	Boat (cont.)	 Close inflation valve by turning to the right. Check the boat for cuts or tears or any damage that was caused by the boat rubbing against a rough surface. Check for signs of leakage.	

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

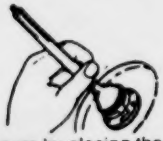
Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
1	Boat (cont.)	Remove adapter (3) from the inflation/deflation valve (4).  Check the air pressure by placing the air gage on the inflation valve and turn the valve to the left. The pressure should be about 3 psi (211 g/sqcm). If the pressure is correct, turn the valve to the right, remove the gage and go to the next step. If the pressure is not correct, turn valve to the right, remove gage, reattach hose and add more air. Recheck pressure with air gage. In the event of lack	

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

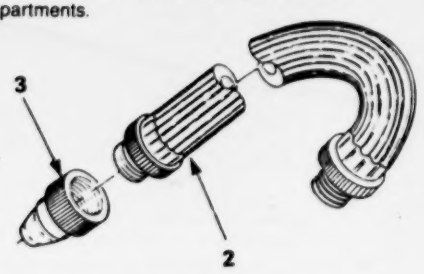
Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
1	Boat (cont.)	of time to check air presure, or loss of air pressure gage, inflate each section until it is firm to the touch of the heel of the hand. Allow 7 psi (492 g/sqcm) for floor compartments.  Remove the adapter (3) from the hose (2) and place pump and hoses into their pockets.	

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
2	Paddles	Inspect paddles for damage.	Paddles are splingered, chipped or cracked. Lamination is separated.
3	Repair Kit	Make sure the repair kit has all items needed for repair. (See Appendix D for list).	Any repair kit items are missing.

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

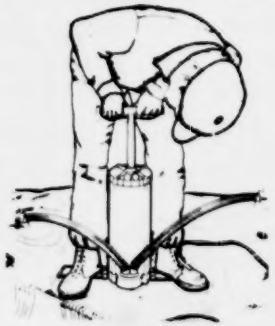
Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
4	Pumps	 The pumps should be tested for air leakage by moving the handle down with the ends of the hoses plugged. The time	

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
4	pumps (cont.)	and load it takes for the handle to travel down is compared with the following chart:	

Pump	Load pounds	Time in minutes (minimum)
Foot held (Type I)	20	2
Hand held (Type II, size 1)	15	1¼

If pump fails test, refer to Chapter 3 for repair procedures.

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

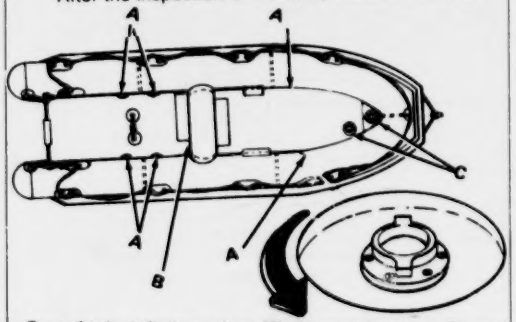
Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
5	Boat	DEFLATION After the inspection of the boat, deflate as follows.  Open 6 tube inflation valves (A), thwart tube valve (B), and 2 floor valves (C) by turning valves to the left.	

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

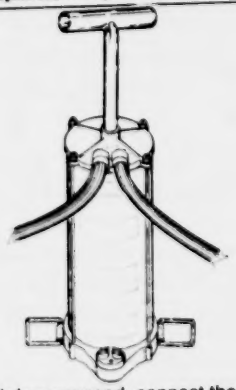
Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
5	Boat (cont.)	 After the air has escaped, connect the hoses to the two ports on the handle end of the pump.	

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

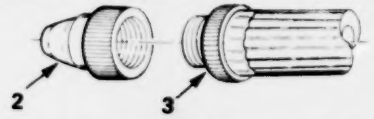
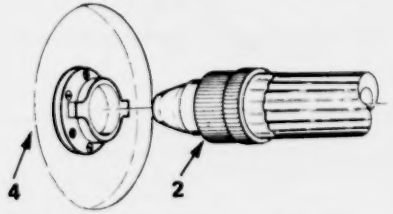
Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
5	Boat (cont.)	 Attach the adapter (2) to the free end of the hose (3).  Connect the adapter (2) to the inflation valve (4).	

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
5	Boat (cont.)	Operate the pump until all the air is out.	

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

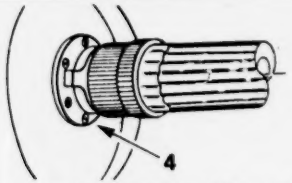
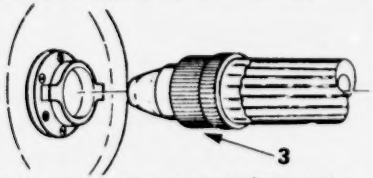
Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
5	Boat (cont.)	 Close the inflation/deflation valve (4) by turning to the right.  Remove adapter (3) from the inflation/deflation valve.	

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

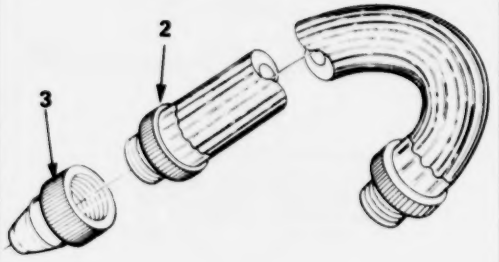
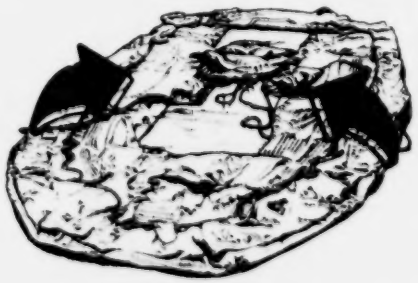
Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
		 Remove adapter (3) from hose (2).	

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
5	Boat (cont.)	Remove hoses from pump and place hose, pumps, and adapters into their pockets. Clean and dry the boat.	

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
5	Boat	REPACK THE BOAT AS FOLLOWS: 	

Fold the sides of the boat toward the middle.

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

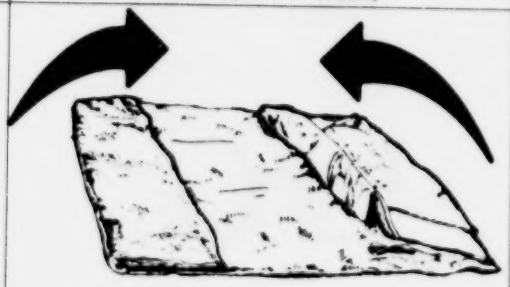
Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
5	Boat (cont.)	 Fold stern (back) to the center of the boat in 2 equal folds. Fold the bow (front) to the center of the boat in 3 equal folds.	

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
5	Boat (cont.)	Fold boat halves together.	

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

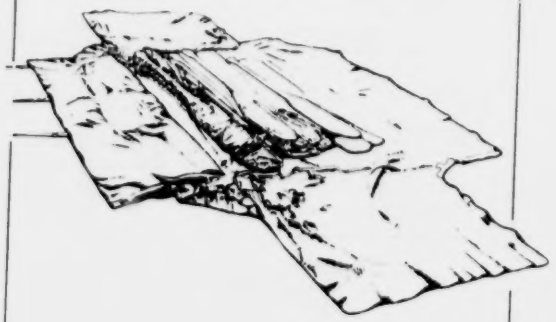
Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
5	Boat (cont.)	 Place paddles into carrying case.	

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

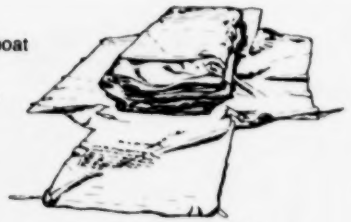
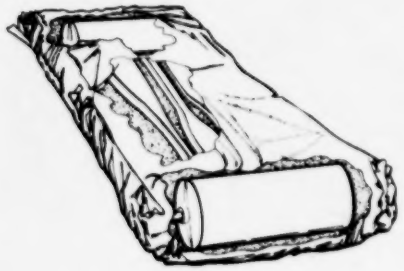
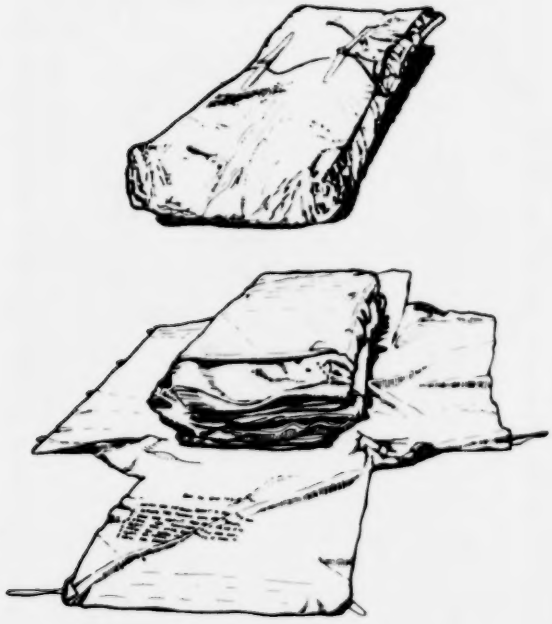
Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
5	Boat (cont.)	Place folded boat in center of carrying case.  Fold flaps and secure straps.	

Table 2-1 Semiannual Preventive Maintenance Checks and Services (PMCS)-Cont.

Item No.	Item to be inspected	Procedures Check for and have repaired, replaced, or adjusted as necessary	Assault craft will be reported not ready (RED) if:
5	Boat (cont.)	 Assault boat in packed condition showing pumps and paddles in stowed positions.	

Section III OPERATION UNDER USUAL CONDITIONS

Unfolding the Boat

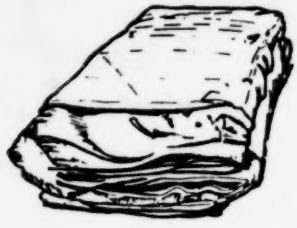


Release the straps and unfold flaps.

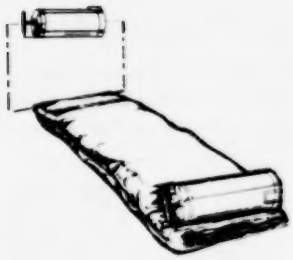
Remove Boat From Carrying Case

CAUTION

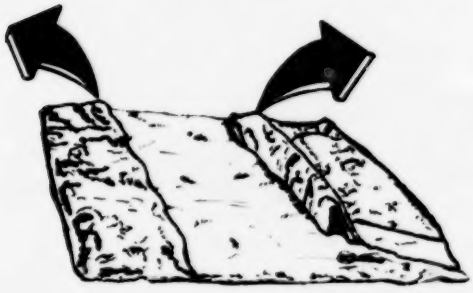
Make sure no sharp items are under the boat that could cut or damage it when placing on flat surface.



Remove paddles from carrying case.



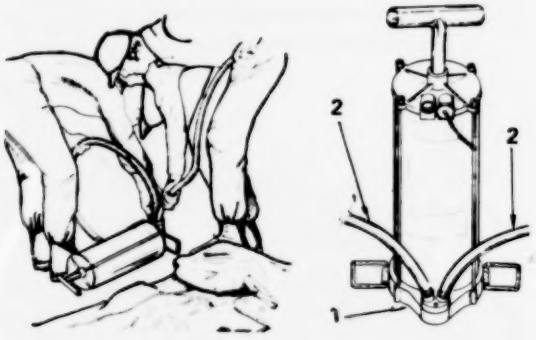
Unfold the boat from the half folded position and remove pumps from pump pockets.



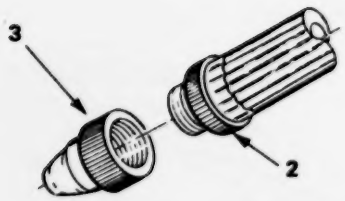
Unfold the bow (front) and stern (back) from the center.

Unfold the sides

Inflation



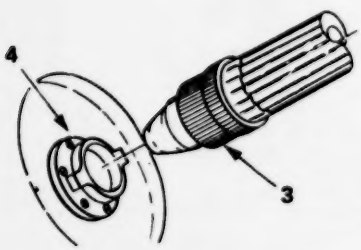
Remove the pump(s) and adapters from the pocket. Attach the hoses (2) to the end of the pump (1) opposite the handle.



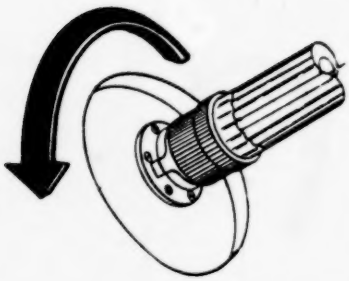
Attach the adapter (3) to the end of the hose (2).

NOTE

The foot held pumps are used for inflating the main flotation tube, spray rail tube, thwart tube and floor. The hand pump is used for floor compartment inflation.



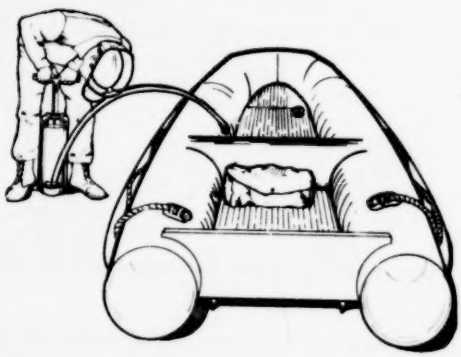
Insert the hose adapters (3) onto the inflation/deflation valve (4).



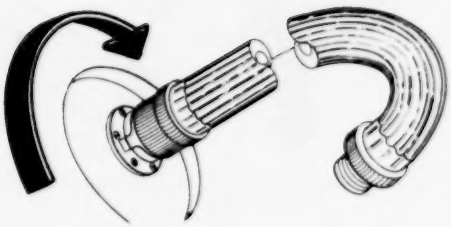
Open inflation/deflation valve by turning to the left.

CAUTION

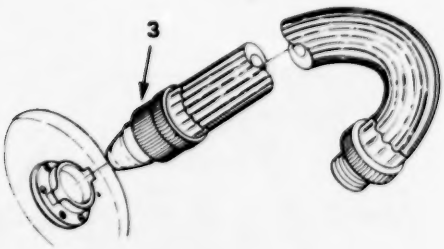
Do not overinflate (3 psi (211 g/sqcm) max). Use pressure gage during inflation.



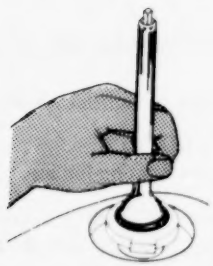
Operate the pump until boat is fully inflated.



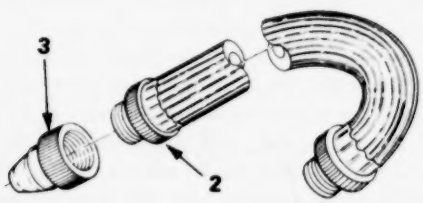
When the inflation is completed, close the inflation/deflation valve by turning to the right.



Remove adapter (3) from the inflation/deflation valve.



Check the air pressure by placing the air gage on the inflation valve and turn the valve to the left. The pressure should be about 3 psi (211 g/sqcm). If the pressure is correct, turn the valve to the right, remove the gage, and go to the next step. If the pressure is not correct, turn valve to the right, remove gage, reattach hose, and add more air. Recheck pressure with air gage. In the event of lack of time to check air pressure, or loss of air pressure gage, inflate each section until it is firm to the touch of the heel of the hand. Allow 7 psi (492 g/sqcm) for floor compartments.



Remove the adapter (3) from the hose (2) and place pump and hoses into their pockets.

LAUNCHING

1. Remove paddles from carrying case and place in boat.
2. Carry boat by handles to launching area.

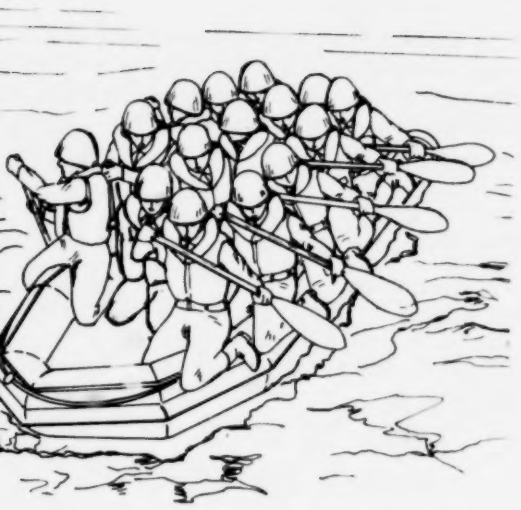
CAUTION
Never carry boat by lifeline.

3. Mount outboard motor (if used) at water's edge.
4. Place equipment into boat and have personnel enter from either side as the boat is pushed into the water.

METHODS OF MOVEMENT—NORMAL

CAUTION
All crew members must wear life preservers during boat operation.

Paddling. Three engineers make up the normal crew of an assault boat. The engineer in charge of the crew is seated in the back of the boat. His duties are to steer the boat by using a paddle as a rudder. The other two engineers sit in the front, one on either side. Their duties are to act as rowers and set the timing for the other rowers. Four infantry soldiers kneel on one knee along each side of the boat and assist in rowing. When the far shore is reached, the infantry soldiers leave the boat. The three engineers then return the boat to the near shore for another load. The boat can maintain forward motion in currents of up to five feet per second.



15-person inflatable assault boat, paddling.

Outboard Motor

CAUTION

When using an outboard motor increase the speed cautiously and apply power slowly. Never start out at full power, as the transom may be damaged and the boat may overturn.

Two engineers make up the boat crew when an outboard motor is used. The engineer in charge of the boat operates the outboard motor and directs the loading of the boat. The other engineer takes a place at the front of the boat and helps put the boat in and take it out of the water.

Deflation

1. Carry the boat onto dry land.
2. Remove the outboard motor, paddles and any loose parts or material from the boat.
3. Inspect boat for holes or spots that have been rubbed or scraped.
4. Remove all rocks, sand, sticks, etc., from the boat.
5. Clean and dry the boat thoroughly.
6. Let the air out of the boat by turning valves to the left.
7. Attach the pump hose(s) to the port(s) on the handle end of the pump.
8. Attach adapter(s) to the end(s) of the hose(s).

person inflatable assault boat, outboard motor propelled.

9. Attach the pump hose(s) to the inflation/deflation valve(s).

NOTE

If only one hose is used, cap remaining deflation port.

10. Operate pump until all air is removed.
11. Continue deflating sections until all of boat is deflated.
12. Remove hose(s) from inflation/deflation valve(s).
13. Remove adapter(s) from hose(s).
14. Remove hose(s) from pump and stow hoses, adapters and pump in their pocket.
15. For proper folding of the boat, see Chapter 2.

Storage of the Boat and Gear

a. Boat

The boat should be stored in a cool, dry place out of direct sunlight.

Use minimum handling to prevent scraping.

Do not store near heated items (steam lines, stove, boilers, or like items).

Do not store in areas that have spilled oil or oily compounds.

Do not use hooks to move or stack the boat.

The boat and gear should be inspected before long term storage. After the inspection, it should be dried and dusted with talcum powder or soapstone.

b. Hand Pumps

The hand and foot-held pumps should be stored in their own pockets.

Check the pockets for loose materials before folding and packing.

c. Paddles

The 11 wooden paddles are placed in the carrying case under the folded boat.

d. Repair Kit

Make sure the Repair Kit is stored in the Repair Kit pocket. Make sure that all items listed below are stored in the repair kit.

Stitcher and Scraper
Air Pressure Gage
Insert Valves
Cloth, Coated Polychloroprene
Adhesive, Rubber Chloroprene
Buffing Solution
Scissors
Wire Brush
Pliers
Steel Roller

Section IV OPERATION UNDER UNSUAL CONDITIONS

Special care should be given to the assault boat during hot weather.

If the boat is kept inflated in direct, hot sunlight, make sure the air pressure does not get too high. If the pressure does get too high, it could damage the boat.

The pressure in the boat should be kept at 3 psi (211 g/seqm) except for the floor, which should be kept at 7 psi (492 g/sqcm). If the pressure gets too high, let the extra air out by turning the inflation/deflation valve to the left. When pressure is again within limits, close the valves by turning to the right.

CHAPTER 3

MAINTENANCE INSTRUCTIONS

Section I LUBRICATION INSTRUCTIONS

General

The hand operated pumps need an application of silicone compound lubricant at various times for proper operation. The lubricant is located in the repair kit.

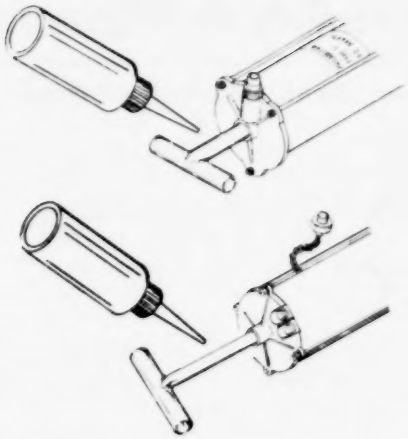
The silicone compound lubricant should remain sealed at all times except during use. Do not allow dirt, dust or water to mix with the lubricant.

All outside parts of the pumps not needing lubricant should be kept clean. After lubrication, wipe off all lubricant and operate the pumps to make sure they work as they should.

Lubrication Instructions

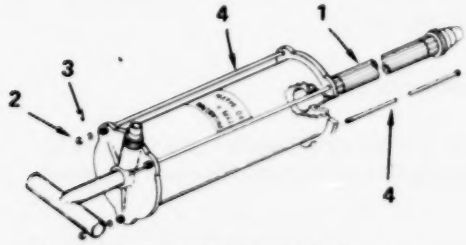
The hand and foot pump handle piston rods should get an application of lubricant after each deflation.

Hand Held Pump

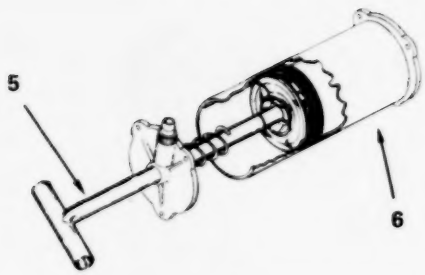


Hand Held Pump

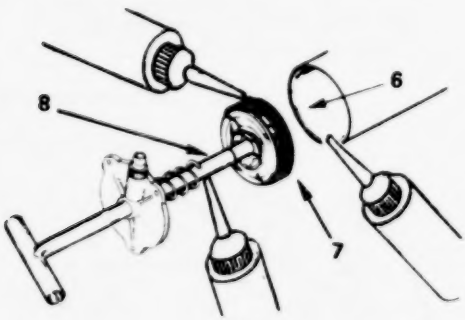
Inspect and lubricate the hand pump yearly as follow



If installed, remove hose assembly (1).
Remove nuts (2) and washers (3) from spokes (4).



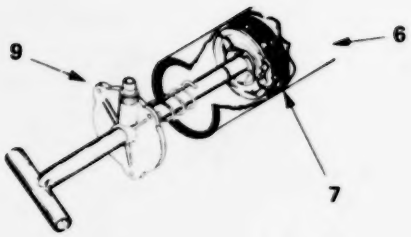
Remove piston by pulling the pump handle (5) away from the cylinder (6).



NOTE

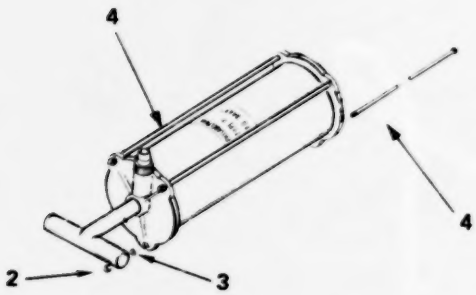
Do not disassemble the piston.

Use a clean rag and wipe piston cup (7) clean. Apply a small amount of silicone compound to the piston cup (7) inside wall of the cylinder (6) and piston rod (8).



Carefully insert the piston into the cylinder (6) using fingers as a guide to make sure the piston cup (7) is not damaged.

Apply sealing compound to the open end of the cylinder (6) and install cap (9).

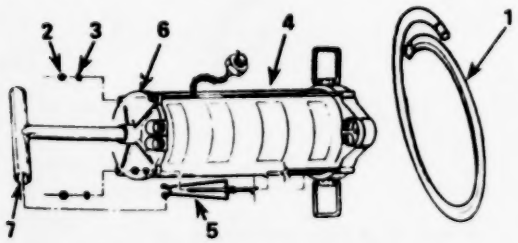


Install spokes (4). Install washers (3), nuts (2), and tighten evenly on spokes (4).

Operate the handle a few times to make sure the silicone compound is spread evenly.

Hand-operated Foot-held Pump

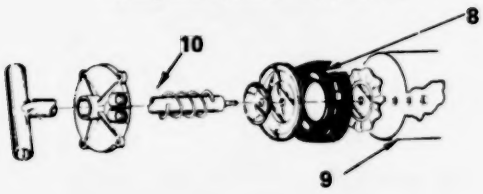
The pump shall be lubricated as follows:



Remove hose assemblies (1) if installed. Remove nuts (2), washers (3), spokes (4), and carrying clip (5). Gently tap cap (6) and remove piston handle (7) and cap (6) as one unit.

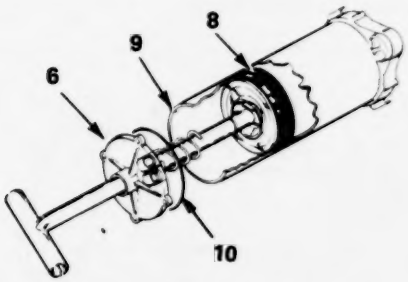
NOTE

Make sure the gasket between the cap and cylinder is not broken.



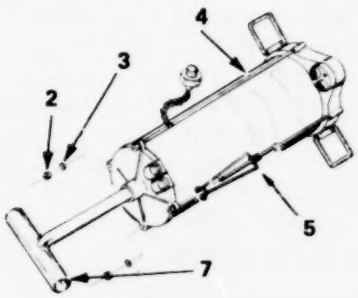
Use a clean rag to wipe piston cup (8) and cylinder (9) clean.

Apply a small amount of silicone compound to piston cup (8), cylinder wall (9), and piston rod (10).



Carefully insert piston assembly (8) into cylinder (9), using fingers as a guide to make sure piston cup (8) is not damaged or cut.

Make sure gasket (10) is in place and install cap (6) onto cylinder (9).



Install spokes (4) and put carrying clip (5) on one spoke. Install washers (3), nuts (2) and tighten evenly.

Operate pump handle (7) to make certain lubricant is properly spread.

Section II TROUBLESHOOTING

The troubleshooting table 3-1 lists the common problems which may be found during operation or maintenance of the 15-person inflatable assault boat. You should do the text/inspections and corrective actions in the order listed.

This manual cannot list all problems that may occur. If the problem is not listed, ask your supervisor for the correct steps to follow.

Table 3-1 TROUBLESHOOTING

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
BOAT
ONE OR MORE COMPARTMENTS WILL NOT HOLD AIR PRESSURE.
Step 1. Inspect defective air compartment for signs of leakage. Repair damaged area by following steps on Page 3-13.
Step 2. Check any old patches to make sure they are not leaking. Using a safe solvent, carefully remove the bad patch and repair the area following instructions on Page 3-13.

HAND PUMP

HAND PUMP WILL NOT INFLATE BOAT

Check hand pump for proper operation as follows:

NOTE

Make sure the outlet port is sealed.

Pull handle out to limit of travel.

Apply downward force to handle as listed in table.

Pump Type	Load Pounds	Travel Time in Minutes (minimum)
Foot held (Type 1)	20	2
Hand held (Type II, size 1)	15	1¼

If travel time is less than shown in Travel Time Minutes column, the pump test will be noted as a failure.

If necessary, repair the pump by following the steps in Section III.

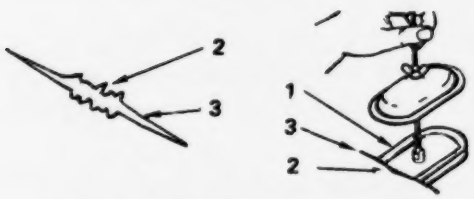
If pump cannot be repaired, get a new pump.

Section III EMERGENCY REPAIRS TO BOAT

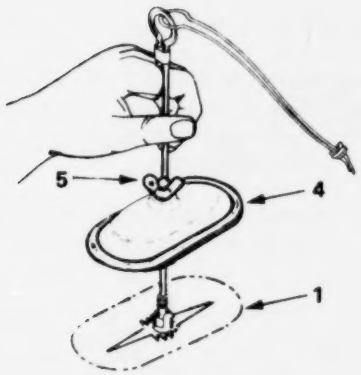
Introduction. During the operation of the 15-Person Inflatable Assault Boat, certain repairs may be needed to keep it and the pumps in a safe condition. These maintenance steps can be done by you in the field.

Emergency boat repairs can be made by using the sealing clamp located in the repair kit.

Select the proper size sealing clamp.



Cut the hole the width of the baseplate. Insert the base plate (1) into the damaged area (2) that has been cut (3).



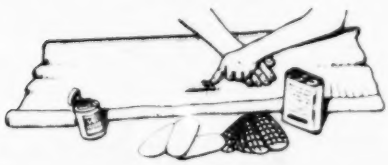
Turn the base plate (1) so it lines up with the slit. Set the top plate (4) over the base plate. Start and tighten wing nut (5) to secure the clamp.

Inflate repaired area as shown in Table 2-1. After inflation, inspect area for leakage.

Normal Repairs to the Boat

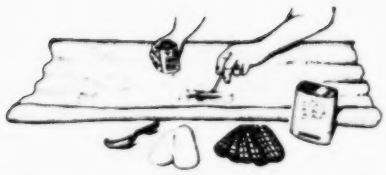
The patch material furnished in the repair kit can be used on tears up to 3 inches long or on holes not larger than 2 inches across. The next steps will be followed for damage repair:

Dry the area to which the patch will be applied. A soft dry cloth can be used.

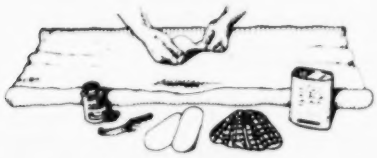


Use the scratcher or buffing solution to buff the damaged area. The buffed area should be 1 inch larger than the patch.

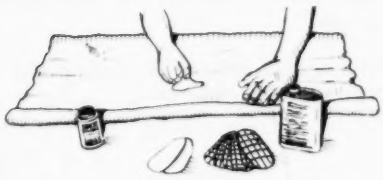
Remove all dirt or dust from buffed area by wiping the area with the buffing solution.



Apply a thin layer of Self-Vulcanizing cement over the buffed area. Allow the cement to dry 3 to 5 minutes or until all wet spots are gone.

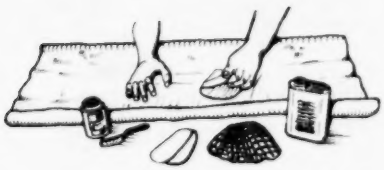


Remove the white cloth from the patch.



Apply the gray side down over the center of the damaged area. Make sure no air is trapped under the patch.

Use the stitcher and roll from the center to the edge of the patch to prevent air pockets from forming.



Remove the protective film from the surface of the patch.

Allow the patch to dry for 15 minutes before inflating the damaged area.

NOTE

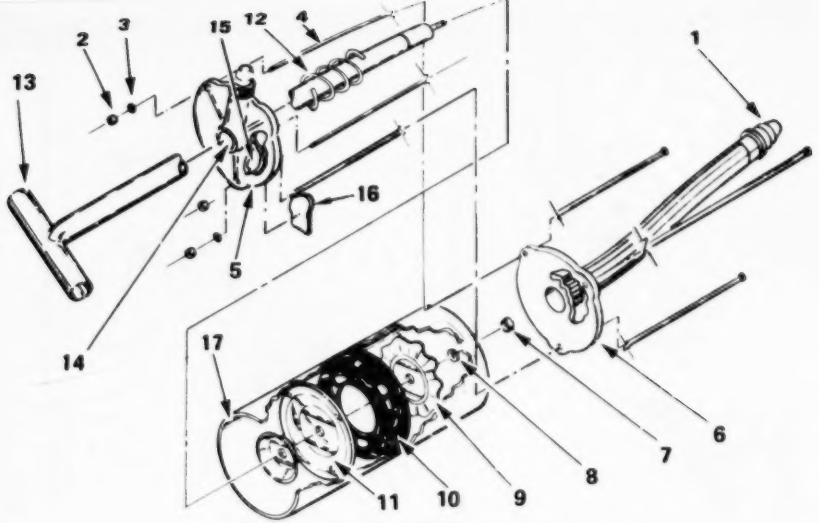
For larger cuts or tears, enlarge the opening enough to permit an inside patch to be applied as well as the outside patch.

NOTE

For larger repairs use Repair Kit, Inflatable Craft for Pneumatic Ponton Floats, Bridge Erection Rollers, Assault Boats and Reconnaissance Boats, SC 2090-97-CL-E06, NSN 2090-00-724-8569.

ILLUSTRATED PARTS BREAKDOWN

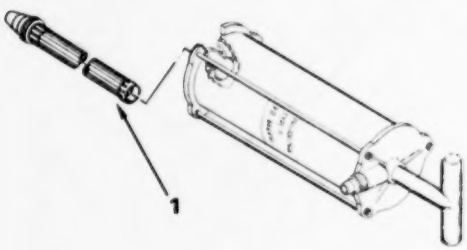
1. Hose Assembly
2. Nut
3. Washer
4. Spoke
5. Cap
6. Base
7. Nut
8. Washer
9. Retainer Cup
10. Piston Cup
11. Backing Cup
12. Spring
13. Handle
14. O-ring
15. Flapper Check Valve
16. Flapper Valve
17. Cylinder



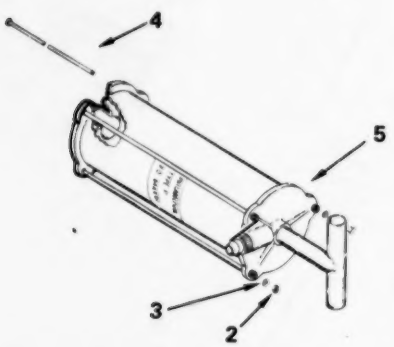
Hand operated, hand held pump - exploded view

Repair of the Hand Pump

Disassembly

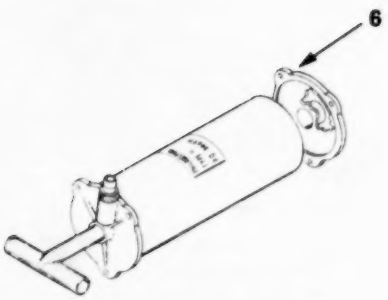


If installed, remove Hose Assembly (1)

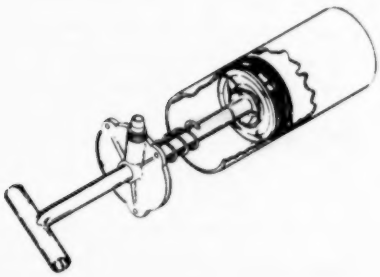


Remove the nuts (2), washers (3) and spokes (4).

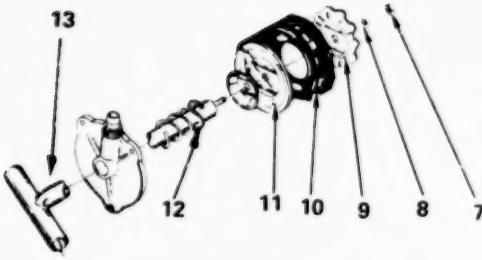
Gently tap the cap (5) to make it loose.



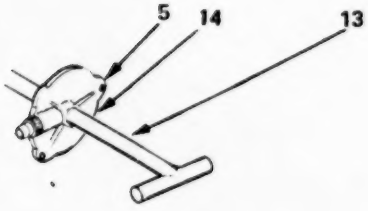
Remove base (6) from the cylinder.



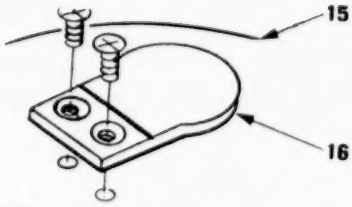
Pull the handle away from the cylinder and remove as a piston assembly.



Remove the nut (7), washer (8), retainer cup (9), piston cup (10), backing cup (11), and spring (12) from the handle (13) shaft.



Remove handle (13) from cap (5). Remove O-ring (14) from cap (5).



Remove flapper valve (16) from the flapper check valve (15).

Cleaning and Inspection

WARNING

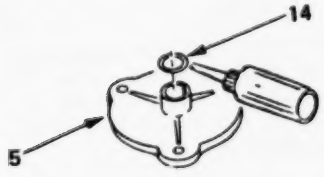
Dry cleaning solvent, P-D-680, used to clean parts, may cause danger to persons and property. Do not allow the solvent to touch the skin over long periods of time. Do not use near open flame or heat. Flash point of solvent is 100°F - 138°F (38°C -59°C).

(1) Use dry cleaning solvent P-D-680 to clean allthe silicone compound from the metal parts.

(2) The piston cup, O-ring and flapper valve should be changed if needed.

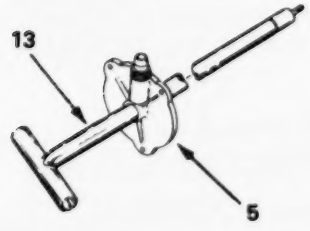
Assembly

Attach the flapper valve (16) to the flapper check valve (15).

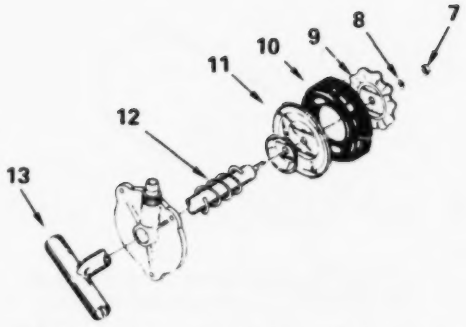


Apply a small amount of silicone compound on the O-ring (14).

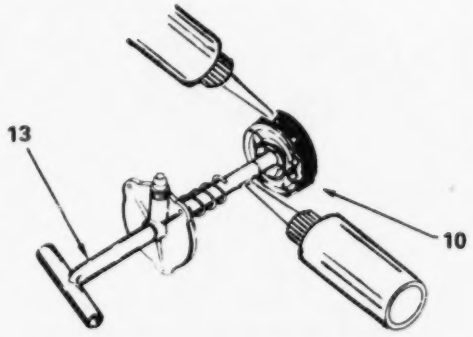
Place O-ring over the cap (5).



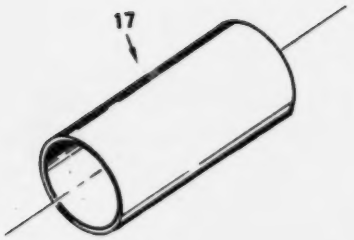
Install handle (13) into cap (5).



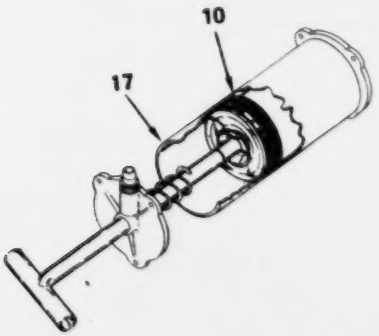
Install in order shown: the spring (12), backing cup (11), piston cup (10), retainer cup (9), washer (8), and nut (7) onto handle (13). Tighten nut (7) to secure.



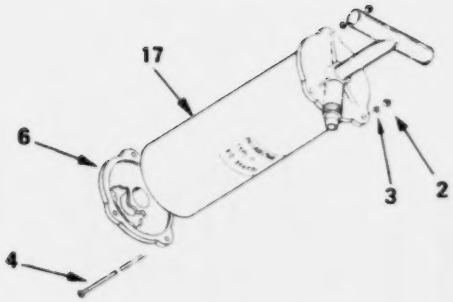
Apply silicone compound to the rod of the handle (13) and piston cup (10).



Put sealing compound on the open ends of the cylinder (17) to prevent any air leakage.



Using your fingers as a guide, ensure the piston cup (10) is not cut, insert the piston assembly into the cylinder (17).



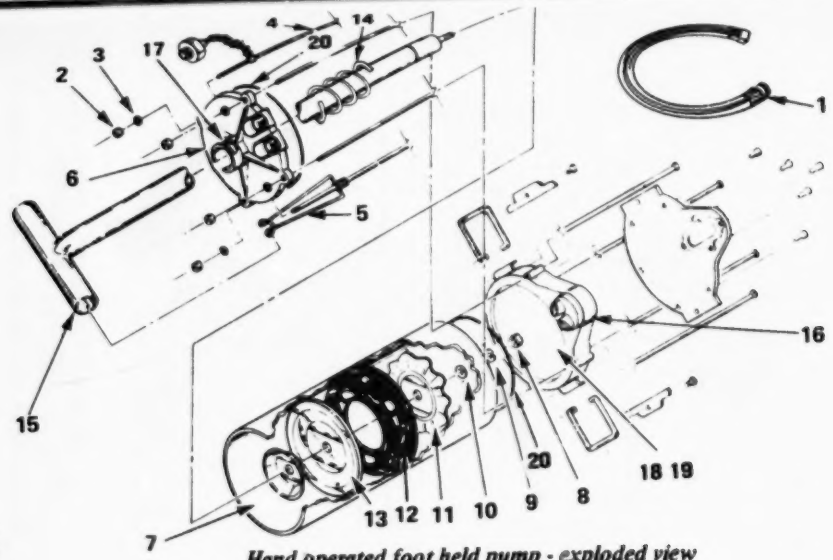
Put base (6) on cylinder (17). Install spokes (4), washers (3), and nuts (2) and tighten nuts securely.

Operate the handle a few times to make sure the silicone compound is spread evenly.

Repair of the Hand-operated, Foot-held Pump.

ILLUSTRATED PARTS BREAKDOWN

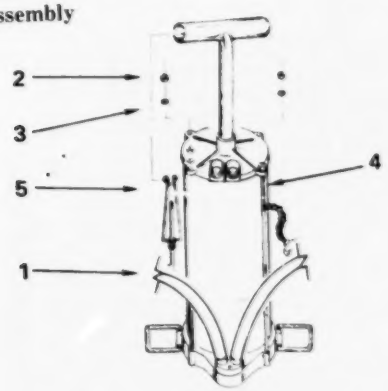
1. Hose Assembly
2. Nut
3. Washer
4. Spoke
5. Carrying Clip
6. Cap
7. Cylinder
8. Nut
9. Split Washer
10. Plain Washer
11. Retainer Cup
12. Piston Cup
13. Backing Cup
14. Spring
15. Handle
16. Base
17. O-Ring
18. Flapper Valve
19. Flapper Check Valve
20. Gasket



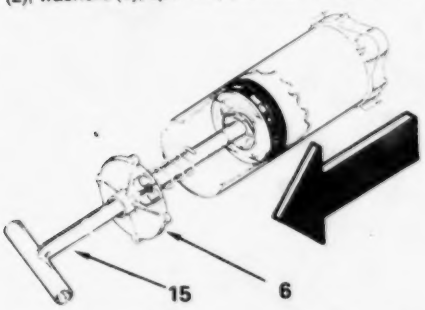
Hand operated foot held pump - exploded view

Repair of the Foot Pump

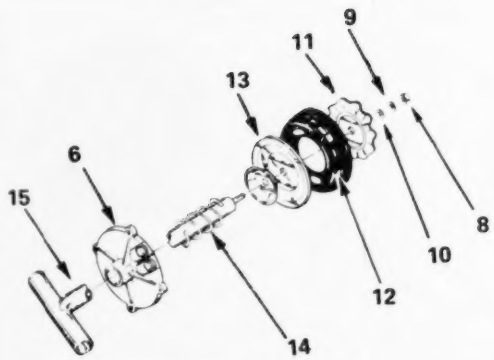
Disassembly



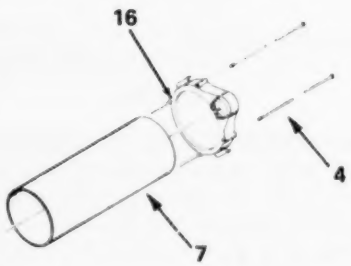
Remove hose assemblies (1), if installed, nuts (2), washers (3), spokes (4) and carrying clip (5).



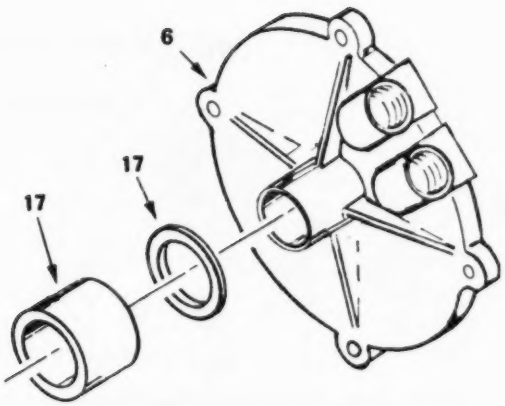
Remove handle (15), cap (6), and piston as a unit.



Remove nut (8), lock washer (9), flat washer (10), retainer cap (11), piston cup (12), backing cup (13), spring (14) and pull handle (15) through cap (6).



Remove base (16) and spokes (4) from cylinder (7).



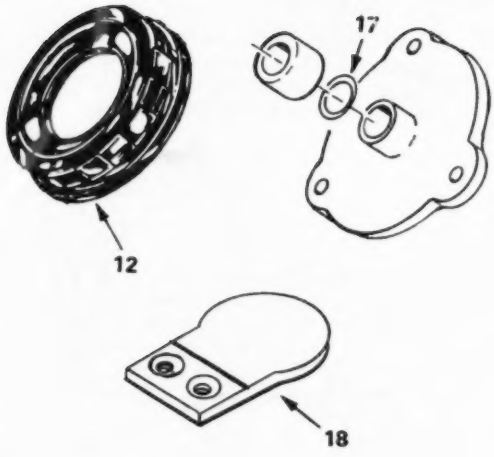
Remove O-ring retainer (17) and O-ring (17) from cap (6).

Cleaning and Inspection

WARNING

Dry cleaning solvent, P-D-680, used to clean parts, may cause danger to persons and property. Do not allow the solvent to touch the skin over long periods of time. Do not use near open flame or heat. Flash point of solvent is 100°F - 138°F (38°C - 59°C).

Use a clean rag and cleaning solvent to remove silicone compound from all parts.



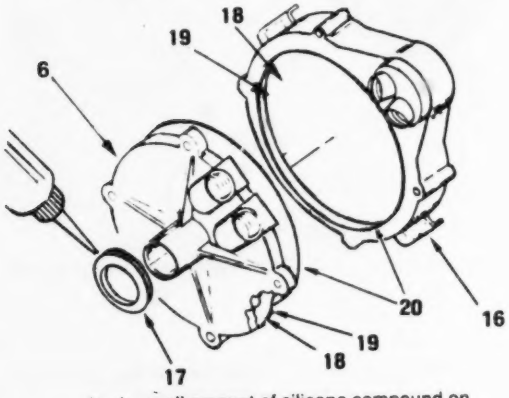
The piston cup (12), O-ring (17) and the flapper valve (19) should be changed.

NOTE

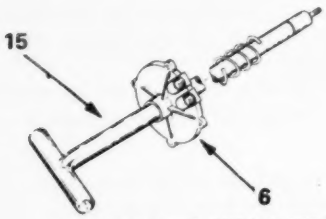
The foot pump contains 5 flappers. There are 3 in the base assembly and 2 in the cap assembly.

Assembly

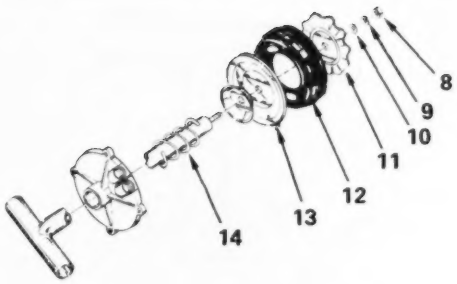
Install flappers (18) into the flapper valve assemblies (19) and install assemblies into cap (6) and base (16). Place a gasket (20) into the cap (6) and a gasket (20) into the base (16).



Apply small amount of silicone compound on the O-ring (17). Put O-ring into cap (6).

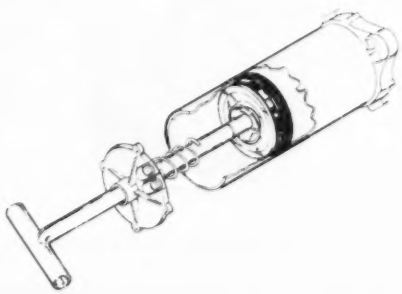


Slide handle (15) into cap (6).

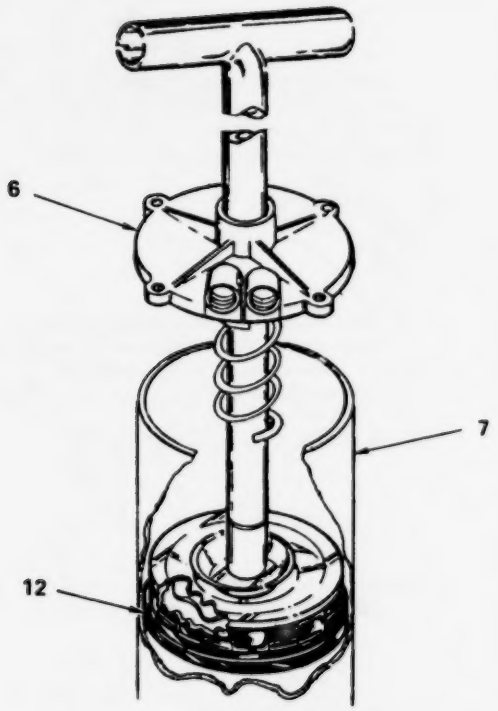


Put these items on the shaft in the order they are listed: spring (14), backing cup (13), piston cup (12), retainer cup (11), flat washer (10), lock washer (9) and nut (8).

Tighten nut (8) to secure all parts.



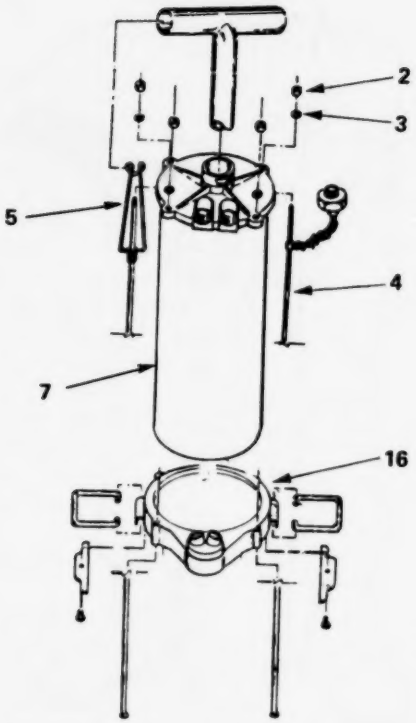
Apply silicone compound to the inside of the cylinder and on the handle rod



Push the piston assembly into the cylinder (7).

Use fingers to make sure piston cup (12) is not cut.

Push cap (6) until it is touching the top of the cylinder (7).



Add base (16) to cylinder (7). Push spokes (4) through base (16) adding carrying clip (5) to one of the spokes. Install washers (3) and nut (2) to spokes and tighten evenly

best copy available

Operate pump a few times to make sure silicone compound is spread evenly.

APPENDIX A
References

A-1 SCOPE

This appendix lists all forms and technical publications referenced in this manual.

A-2 FORMS

Equipment Inspection and Maintenance Worksheet ..... DA Form 2404
Maintenance Request Used for Requesting Support Maintenance ..... DA Form 2407
Continuation Sheet Used for Requesting Support Maintenance ..... DA Form 2407-1
Quality Deficiency Report ..... SF 368

A-3 TECHNICAL PUBLICATIONS

The Army Maintenance Management System (TAMMS) .. DA PAM 738-750
Repair Kit, Inflatable Craft for Pneumatic Ponton Floats, Bridge Erection Rollers, Assault Boats and Reconnaissance Boats ..... SC 2090-97-CL-E06

APPENDIX B
Components of End Item and Basic Issue Items

SECTION 1 - INTRODUCTION

B-1 Scope

This appendix lists those integral parts and basic items needed to operate the boat in a safe manner.

B-2 General

The Components of End Item List is divided into the following sections:

Section II. Components of the End Item. Not applicable.

Section III. Basic Issue Items (BII). These are minimum needed items required for boat operation and emergency repairs. These items are shipped separately but must go with the boat during operations and whenever it is transferred. This manual is your authority to requisition replacement BII, based on the Table(s) of Organization and Equipment (TOE)/Modification Table of Organization and Equipment (MTOE) authorization of the end item.

B-3 Explanation of Columns

The following provides an explanation of columns found in the tabular listings:

a. Column (1): Illustration. This column is divided as follows:

(1) Figure Number. (Fig. No.) Indicates the figure number of the picture on which the item is shown (if it applies).

(2) Item Number. The number used to identify an item called out in the figure.

b. Column (2): National Stock Number (NSN). Indicates the National Stock Number assigned to the item and which will be used for requesting the item.

c. Column (3): Description. Indicates the Federal item name and, if required, a minimum description to identify and locate the item. The last line for each item indicates the (FSCM) in parentheses followed by the part number.

d. Column (4): Unit of Measure (U/M). Indicates the measure used in performing the actual operational/maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr).

e. Column (5): Quantity Required (Qty Req). Indicates the quantity of the item authorized to be used with/on the equipment.

SECTION III
BASIC ISSUE ITEMS LIST

(1) Illustration (a) Fig No.	(b) Item No.	(2) Nat'l Stock Number	(3) Description FSCM and Part Number	Usable on Code	(4) U/M	(5) Qty Req
B-1	1		Pump Assembly Hand (97403) 13211E9598		EA	1
B-1	2	4320-00 580-6672	Pump Assembly Foot (97403) 13211E9597		EA	2
B-1	3	2090-00- 812-8478	Repair Kit, Inflatable (97403) 13211E3082-2		EA	1
B-1	4	2090-00- 890-0108	Case, Carrying (97403) 13214E9990		EA	1
B-1	5	2040-00- 268-9261	Paddle (81349) MIL-P-15739		EA	11

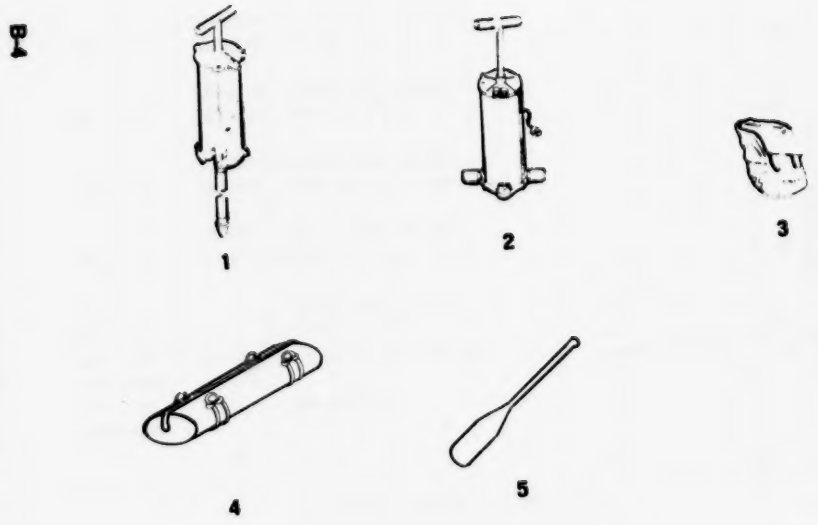


Figure B-1. Basic issue items.

APPENDIX C
Additional Authorization List (AAL) Items

(Not Applicable)

C-1/C-2 blank)

APPENDIX D Expendable/Durable Supplies and Materials List

Section I. INTRODUCTION

Scope

This appendix lists expendable/durable supplies and materials you will need to operate and maintain the 15-person inflatable assault boat. These items are permitted by CTA50-970, Expendable items (except medical, class V. repair parts, and former items).

Explanation of columns

a. Column 1—Item Number. This number is assigned to the entry in the listing and is explained in the instructions to identify the material.

b. Column 2—Level. This column identifies the lowest level of maintenance needed for the listed item.

C—Operator/Crew
O—Unit Maintenance
F—Intermediate Direct Support Maintenance
H—Intermediate General Support Maintenance

c. Column 3—National Stock Number. This is the National Stock Number assigned to the item; use it to request or requisition the item.

Section II
EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) Item No.	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
1	C		Adapter, Hose 13211E9619 (97403)	EA
2	C	5110-00-223-7782	Knife 16950 (11273)	EA
3	C	8510-00-817-0295	Powder, Talcum,	CN
4	C	4320-00-580-6672	Pump Assembly, Foot, 13211E9597 (97403)	EA
			Consisting Of:	
	C		Barb, Swivel 13211E9675 (97403)	EA
	C		Base Plate 13211E9607 (97403)	EA

Section II
EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) Item No.	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
	C		Cap Assembly 13211E9606 (97403)	EA
	C		Clip, Carrying 13211E9653 (97403)	EA
	C		Cup Backing 13211E9637 (97403)	EA
	C		Cup, Piston 13211E9636 (97403)	EA
	C		Ferrule 13211E9681-2 (97403)	EA
	C		Gasket 13211E9650 (97403)	EA

Section II
EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) Item No.	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
	C		Handle, Pump 13211E9604 (97403)	EA
	C		Hose 13211E9683 (97403)	EA
	C		Hose Assembly (48 inches) 13211E9605-1 (97403)	EA
	C	5310-00-761-6882	Nut, Plain Hexagon MS51967-2 (96906)	EA
	C'		Nut, Spoke 13211E9657 (97403)	EA
	C		Nut, Swivel 13211E96909 (97403)	EA

Section II
EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) Item No.	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
	C	5330-00-542-1457	O-Ring MS29561-116 (96906)	EA
	C		Plate, Valve 13211E9648 (97403)	EA
	C		Plate, Valve 13211E9656 (97403)	EA
	C		Retainer Cup 13211E9635 (97403)	EA
	C		Spring, Helical 13211E9685-1 (97403)	EA
	C		Spoke 13211E9688 (97403)	EA

Section II
EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) Item No.	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
	C		Valve, Flapper, Check 13211E9631 (97403)	EA
	C	5310-00-809-4058	Washer, Flat MS27183-10 (96906)	EA
	C	5310-00-582-5965	Washer, Lock MS35338-44 (96906)	EA
5	C		Pump Assembly, Hand 13211E9598 (97403)	EA
			Consisting Of:	
	C		Base, Pump 13211E9665 (97403)	EA
	C		Barb, Swivel 13211E9675 (97403)	EA

Section II
EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) Item No.	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
	C		Bib, Hose 13211E9621 (97403)	EA
	C		Cage, Valve Assy 13211E9610 (97403)	EA
	C		Cap 13211E9666 (97403)	EA
	C		Cup, Backing 13211E9639 (97403)	EA
	C		Cup, Piston 13211E9676 (97403)	EA
	C		Cup, Retainer 13211E9633 (97403)	EA

Section II
EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) Item No.	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
	C		Cylinder, Pump 13211E9649-2 (97403)	EA
	C		Ferrule 13211E9681-2 (97403)	EA
	C		Flapper Check Valve 13211E9630 (97403)	EA
	C		Handle, Pump 13211E9678 (97403)	EA
	C	4720-01-243-4333	Hose 13211E9683 (97403)	EA
	C		Hose Assembly 13211E9601 (97403)	EA

Section II
EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) Item No.	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
	C	5310-00-761-6882	Nut, Plain Hexagon MS51967-2 (96906)	EA
	C		Nut, Spoke 13211E9659 (97403)	EA
	C		Nut, Swivel 13211E9609 (97403)	EA
	C	5330-00-585-1065	O-Ring MS29561-113 (96906)	EA
	C	5330-00-702-4713	O-Ring MS29561-115 (96906)	EA
	C		Plate, Valve 13211E9667 (97403)	EA

Section II
EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) Item No.	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
	C		Piston Assembly 13211E9614 (97403)	EA
	C		Spoke 13211E9658-2 (97403)	EA
	C		Spring, Helical 13211E9685-2 (97403)	EA
	C	5310-00-809-3078	Washer, Flat MS27183-11 (96906)	EA
6	C	2090-00-812-8478	Repair Kit, Inflatable 13211E3082-2 (97403)	EA
			Consisting Of:	

Section II
EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) Item No.	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
	C	8040-00-287-7642	Adhesive, Rubber Stabond Chloroprene T-161 (25670)	EA
	C	7920-00-514-2417	Brush, Acid H-B-643 (81348)	EA
	C		Clamp, Sealing 13211E3087 (97403)	EA
	C	8305-00-641-4230	Cloth, Coated Polychloroprene MIL-C-14505 (81349)	BX
	C	5420-00-506-4316	Gage, Low Air Pressure MIL-G-45811 (81349)	EA
	C	5330-00-126-3451	Gasket 13211E3297 (97403)	EA

Section II
EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) Item No.	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
	C	7610-00-115-9994	Instruction Sheet 13211E3074 (97403)	EA
	C	6850-00-880-7616	Lubricant, Silicone DC-4 (71984)	EA
	C	5120-00-223-7397	Pliers, Slip Joint GGG-P-471 (81348)	EA
	C	5110-00-223-6371	Scissors GGG-S-00278 (81348)	EA
	C	5120-00-965-0627	Screwdriver GGG-S-121 (81348)	EA
	C	5305-00-432-4387	Screw, Tapping Thread Forming MS51862-13 (96906)	EA

Section II
EXPENDABLE/DURABLE SUPPLIES AND MATERIALS LIST

(1) Item No.	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
	C	5420-00-491-6340	Solution, Buffing 22-043 (91540)	EA
	C	5120-00-248-5800	Stitcher and Scraper MIL-S-45179 (81349)	EA
	C	2090-00-786-9149	Valves, Capsule 13211E3088 (97408)	EA
	C	5330-00-118-1325	Washer, Flat 13211E3298 (97403)	EA

INDEX

	PAGE
A	
Adapters, Hose	2-11
Air pressures	2-16
B	
Boat, 15 Person Inflatable Assault	2-2
Capabilities and features	1-5
Carrying Case	2-6
Components (Parts)	2-1
Folding and Packing	2-28
Inflation time	1-6
Operating instructions	2-1
Performance	1-6
Repair	
Emergency	3-10
Normal	3-12
Storing Condition	2-46
Unfolding	2-5
Weight and dimensions	1-6
Basic Issue Items	B-1

INDEX

SUBJECT	PAGE
C	
Carrying case	2-6
Cautions	2-35
Compound, Silicone	3-33
Contents, Table of	i
D	
Deflation	2-44
Dimensions	1-6
E	
Expendable Supplies	D-1
F	
Forms, Maintenance	A-1
G	
General Information	1-1
H	
Hose adapter	2-11

INDEX

SUBJECT	PAGE
I	
Inflation steps	2-37
Information, General	1-1
Introduction	1-1
J	
K	
Kit, Repair	2-47
L	
Lubricant, Silicone Compound	3-1
Lubrication Instructions	3-1
M	
Maintenance checks	3-1
Maintenance forms	A-1
Motor, Outboard	2-44
Movements, Methods of	
Motor, outboard	2-44
Paddles	2-42

INDEX

SUBJECT	PAGE
N	
O	
Operating instructions	2-1
Launching	2-42
Normal	2-42
Unusual	2-48
P	
Paddles	2-18
P-D-680	a/b
Pressure, Air	3-15
Preventive Maintenance Checks and Services	2-4
Pump, Foot held	
Disassembly/assembly	3-28/3-32
Lubrication	3-6
Repair	3-27
Test	3-36
Pump, Hand held	
Disassembly/assembly	3-18/3-22
Lubrication	3-24
Repair	3-18
Test	3-25

INDEX

SUBJECT	PAGE
Q	
R	
Records/Forms	A-1
Repair	
Boat	3-13
Pump, Foot held	3-27
Pump, Hand held	3-17
Repair kit	2-47
S	
Silicone compound	3-33
Solvents	
P-D-680	3-21
Storage	2-46
Supplies, Expendable	D-1
T	
Table of contents	i
Troubleshooting steps	3-8

INDEX

SUBJECT	PAGE
U	
Unusual operation	2-49
V	
W	
Warnings	a/b
Weights	1-6
X	
Y	
Z	

By Order of the Secretary of the Army:

CARL E. VUONO
General, United States Army
Chief of Staff

Official:

R. L. DILWORTH
Brigadier General, United States Army
The Adjutant General

DISTRIBUTION:
To be distributed in accordance with DA Form 12-25A, Operator Maintenance Requirements for Boat, Inflatable Assault, 15 Person.

* U. S. GOVERNMENT PRINTING OFFICE: 1990--261-868 22715

The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
1 decimeter = 10 centimeters = 3.94 inches
1 meter = 10 decimeters = 39.37 inches
1 dekameter = 10 meters = 32.8 feet
1 hectometer = 10 dekameters = 328.08 feet
1 kilometers = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
1 decigram = 10 centigrams = 1.54 grains
1 gram = 10 decigrams = 0.35 ounce
1 dekagram = 10 grams = .35 ounce
1 hectogram = 10 dekagrams = 3.52 ounces
1 kilogram = 10 hectograms = 2.2 pounds
1 quintal = 100 kilograms = 110.46 pounds
1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliters = .34 fl. ounce
1 deciliter = 10 centiliters = 3.38 fl. ounces
1 liter = 10 deciliters = 33.81 fl. ounces
1 dekaliter = 10 liters = 2.64 gallons
1 hectoliter = 10 dekaliters = 26.42 gallons
1 kiloliter = 10 hectoliters = 264.18 gallons

PIN: 033628-000